

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NSPS SOURCE - REVISED

PERMITTEE

Scott Air Force Base, 375 CES/CEV
Attn: Laura Dods
701 Hangar Road
Scott Air Force Base, Illinois 62225

Application No.: 00120075 I.D. No.: 163815AAA
Applicant's Designation: Date Received: October 14, 2004
Subject: Air Force Base
Date Issued: November 18, 2004 Expiration Date: December 10, 2007
Location: 701 Hangar Road, Scott Air Force Base

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of five jet fuel storage tanks equipped with internal floating roofs, diesel emergency power generators and natural gas fired equipment, jet engines test cell, eleven gasoline storage tanks, one ethylene glycol storage tank and indoor shooting range controlled by baghouse and sulfur dioxide generator pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued to limit the emissions of air pollutants from the source to less than major source thresholds (i.e., less than 100 tons/year for nitrogen oxides (NO_x) and carbon monoxide (CO)), as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permit(s) issued for this location.
- 2a. Three jet fuel storage tanks constructed after July 23, 1984 are subject to New Source Performance Standards (NSPS) for Volatile Organic Liquid Storage Vessels, 40 CFR 60, Subparts A and Kb. The Illinois EPA is administering these standards in Illinois on behalf of the United States EPA under a delegation agreement.
- b. The Permittee shall fulfill the monitoring of operations requirements of the New Source Performance Standards, 40 CFR 60.116b(a) and (b) for the three jet fuel storage tanks. That is, records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessels, shall be maintained and readily accessible for the life of the source.
- c. At all times the Permittee shall also maintain and operate the storage tanks, including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions, pursuant to the NSPS, 40 CFR 60.11(d).

3. Emissions of organic material into the atmosphere shall not exceed 3.6 kg/hr (8 lbs/hr) during the loading of any organic material from the aggregate loading pipes of any loading area having throughput of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading area is equipped with submerged loading pipes or an equivalent device (35 Ill. Adm. Code 219.122(a)).
4. This permit is issued based on negligible emission of volatile organic material from the jet fuel and ethylene glycol storage tanks. For this purpose, emissions from each emission sources shall not exceed nominal emission rate of 0.1 lb/hour and 0.44 ton/year.
5. Operation and emissions of the fuel combustion equipment shall not exceed the following limits:

a. Diesel Engines:

Fuel Usage: 42,000 gal/mo, 166,000 gal/yr

<u>Pollutant</u>	<u>Emission Factors</u>	<u>Emissions</u>	
	(lb/10 ³ gal)	(Ton/Mo)	(Ton/Yr)
Nitrogen Oxides (NO _x)	604	12.7	50.1
Carbon Monoxide (CO)	130	2.7	10.8
Volatile Organic Materials (VOM)	48.0	1.0	3.9
Particulate Matter (PM)	42.5	0.9	3.5
Sulfur Dioxide (SO ₂)	39.7	0.8	3.3

b. Boilers and Heaters:

Natural Gas Usage: 100 mmscf/mo, 700 mmscf/yr

<u>Pollutant</u>	<u>Emission Factors</u>	<u>Emissions</u>	
	(lb/mmscf)	(Ton/Mo)	(Ton/Yr)
Nitrogen Oxides (NO _x)	100	5.0	35.0
Carbon Monoxide (CO)	84	4.2	29.4
Particulate Matter (PM)	7.6	0.4	2.7
Volatile Organic Materials (VOM)	5.5	0.3	1.9

These limits define the potential emissions and are based on the standard emission factors given by AP-42 for the boilers and heaters and FIRE (SCC 20200102) for the engines. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

6. Operation and emissions of the jet engines test cell shall not exceed the following limits:

<u>Operational Mode</u>	<u>Mode Duration (Min)</u>	<u>Fuel Usage</u>		<u>Emission Factors (Lb/10³ Lb of Fuel)</u>		
		<u>(Lb/Hr)</u>	<u>(Lb/Test)</u>	<u>NO_x</u>	<u>CO</u>	<u>PM</u>
Idle	45	1,136	852	3.9	27.2	9.1
Approach	10	2,547	425	7.0	6.4	1.6
Intermediate	55	5,650	5,097	13.5	1.6	0.6
Military	10	6,458	1,076	15.3	0.6	1.6

Mode	E M I S S I O N S					
	NO _x		CO		PM	
	(Lb/Mode)	(Lb/Yr)	(Lb/Mode)	(Lb/Yr)	(Lb/Mode)	(Lb/Yr)
Idle	3.3	66	23.2	463	7.8	155
Approach	3.0	59	2.7	54	0.7	14
Intermediate	69.9	1,398	8.3	166	3.1	61
<u>Military</u>	<u>16.5</u>	<u>329</u>	<u>0.6</u>	<u>13</u>	<u>1.7</u>	<u>34</u>
Total	92.7	1,852	34.8	696	13.3	264

These limits are based on the testing twenty (20) engines per year and emission factors provided by the Air Force Institute. Compliance with annual limits shall be determined on a monthly basis from a running total of 12 months of data.

7. The gasoline storage tanks shall comply with the following requirements of 35 Ill. Adm. Code Part 219, Subpart Y: GASOLINE DISTRIBUTION, Section 219.583 Gasoline Dispensing Operations - Storage Tank Filling Operations:

- a. The tank is equipped with a submerged loading pipe;
- b. The vapors displaced from the storage tank during filling are processed by a vapor collection system;
- c. All tank vent pipes are equipped with pressure/vacuum relief valves with the following design specifications:
 - i. The pressure/vacuum relief valve shall be set to resist a pressure of at least 3.5 inches water column and to resist a vacuum of no less than 6.0 inches water column;
 - ii. The owner or operator of a gasoline dispensing operation demonstrates compliance with subsection 2(c)(i) above, at least annually, by measuring and recording the pressure indicated by a pressure/vacuum gauge at each tank vent pipe. The test shall be performed on each tank vent pipe within two hours after product delivery into the respective storage tank. For manifold tank vent systems, observations at any point within the system shall be adequate. The owner and operator shall maintain any records required by this subsection for a period of three years.

8. Operation and emissions of the gasoline storage tanks (total) shall not exceed the following limits:

Gasoline Throughput		Emission Factor	VOM Emissions	
(10 ³ Gal/Mo)	(10 ³ Gal/Yr)	(Lb/10 ³ Gal)	(Tons/Mo)	(Tons/Yr)
390	3,700	1.3	0.25	2.4

These limits are based on the maximum production rate and standard emission factors given by AP-42. Compliance with annual limits shall be determined on a monthly basis from the sum of the data for the preceding 12 months.

- 9a. Emissions of sulfur dioxide into the atmosphere from any process emission source shall not exceed 2,000 ppm (35 Ill. Adm. Code 214.301).
- b. This permit is issued based on negligible emissions of sulfur dioxide from sulfur dioxide generator. For this purpose, emissions from each emission source shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year. These limits are based on sulfur usage less than 15 tons/year and effluent water pH being less than 3.0.
10. This permit is issued based on negligible emissions of particulate matter from the shooting range. For this purpose, emissions shall not exceed nominal emission rates of 0.1 lb/hour and 0.44 ton/year.
11. The emissions of Hazardous Air Pollutants (HAP) as listed in Section 112(b) of the Clean Air Act shall be less than 10 tons/year of any single HAP and 25 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of all HAPs from this source not triggering the requirements to obtain a Clean Air Act Permit Program Permit (CAAPP), and Section 112(G) of the Clean Air Act.
12. The Permittee shall maintain monthly records of the following items:
 - a. Emergency generators fuel usage (gal/mo, gal/yr);
 - b. Natural gas usage (mmscf/mo, mmscf/yr);
 - c. Gasoline throughput (10^3 gal/Mo, 10^3 gal/yr);
 - d. Number and types of jet engines tested;
 - e. Sulfur usage (ton/mo, ton/yr); and
 - f. Irrigation water pH measurements.
13. All records and logs required by this permit shall be completed by the last day of the month following the reported month and retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
14. If there is an exceedance of the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedance or violation and efforts to reduce emissions and future occurrences.
15. The Permittee shall submit the following additional information from the prior calendar year, along with the Annual Emissions Report, due May 1st of each year:
 - a. Diesel fuel usage (gal/year);

- b. Natural gas usage (mmscf/year);
 - c. Gasoline throughput (gal/yr); and
 - d. Number of jet engines tested.
16. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control - Regional Office
2009 Mall Street
Collinsville, Illinois 62234

It should be noted that this permit has been revised to include operation of sulfur dioxide generator described in Construction Permit 04100029.

This revision does not relax monitoring, recordkeeping, or reporting requirements contained in federally enforceable conditions of this permit. These permit conditions assure that this source would not be a major source for purpose of CAAPP.

If you have any questions on this, please call Valeriy Brodsky at 217/782-2113.

Donald E. Sutton, P.E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 3
Illinois EPA, Compliance Section
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emission from the air force base operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such source. This is combustion of 166,000 gallons of diesel fuel in the emergency generators, 700 mmscf of natural gas and testing of 20 jet engines per year. The resulting maximum emissions are well below 100 tons per year of NOx and CO at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that material is handled, and control measures are more effective than required in this permit.

Equipment	E M I S S I O N S (Tons/Yr)						Single HAP	Total HAP
	NO _x	CO	VOM	PM	SO ₂			
Diesel Engines	50.1	10.8	3.9	3.5	3.3			
Boilers and Heaters	35.0	4.2	1.9	2.7	-----			
Jet Engines Test Cells	0.9	0.3	-----	0.1	-----			
Gasoline Storage Tanks	-----	-----	2.4	-----	-----			
Five Jet Fuel Storage Tanks	-----	-----	2.2	-----	-----			
Ethylene Glycol Storage Tank	-----	-----	0.44	-----	-----			
Shooting Range	-----	-----	-----	0.44	-----			
Sulfur Dioxide Generator	-----	-----	-----	-----	0.44			
Plant-Wide						< 10	< 25	
Total:	86.0	15.3	10.8	6.7	3.7	< 10	< 25	

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